

Pea Island National Wildlife Refuge

Second Meeting: Alternatives Development

September 2000

The Process to date . . .

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|---|--------------------|
| •Preplanning | March 2000 |
| •Biological Reviews | April 2000 |
| •Public Involvement
(see handouts) | June 2000 |
| •Issues Vision, Goals | July 2000 |
| •Alternative/Objective
Development | August 2000 |

REFUGE VISION

GOALS

OBJECTIVES

Strategies

Projects

Strategies

Projects

Strategies

Projects

3 Alternatives Derived from Public Involvement and Strategic Planning . . .

1. Existing conditions (status quo)

2. Public issues and concerns, FWS internal minimum needs evaluation and budget

3. Public issues and concerns, FWS internal optimum needs evaluation and budget

ALTERNATIVE 1: No Action – Status Quo

- no change from past management programs**
- no changes to current uses**
- no noticeable refuge program improvements**
- limited public input in decision-making**

ALTERNATIVE 2: Enhanced Resource Protection and Public Use

- **more law enforcement and public use**
- **20% increase in public use and recreation visits**
- **increased maintenance activities**
- **wildlife and habitat programs unchanged**
- **increased resource protection**
- **increased visitor protection**
- **visitor experience improved considerably**
- **some public concerns addressed**

ALTERNATIVE 3: Enhanced Wildlife Program; Improved Resource Protection and Public Use

- emphasis on wildlife monitoring/management**
- increased levels of law enforcement**
- up to 50% increase in public use**
- increased outreach efforts**
- increased maintenance activities**
- increased resource protection**
- increased visitor protection**
- most public concerns addressed**

**WILDLIFE AND FISH
POPULATIONS AT
THE PEA ISLAND
NATIONAL WILDLIFE
REFUGE**

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WATERFOWL

ALTERNATIVE 1

(STATUS QUO)

**Provide habitat for waterfowl on
impoundments and salt marsh.**

**Protect habitat for waterfowl on
salt flats and estuarine ponds.**

ALTERNATIVE 2

**Provide habitat for waterfowl on
impoundments and salt marsh.**

**Protect habitat for waterfowl on
salt flats and estuarine ponds.**

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct scientifically valid studies for tundra swans and snow geese, and brood studies to determine which species are breeding.

SHOREBIRDS

ALTERNATIVE 1

(STATUS QUO)

**Provide habitat for shorebirds
on impoundments.**

**Protect habitat for shorebirds on
ocean beaches, salt flats,
estuarine ponds, and sound
island shoals.**

ALTERNATIVE 2

**Provide habitat for shorebirds
on impoundments.**

**Protect habitat for shorebirds on
ocean beaches, salt flats,
estuarine ponds, and sound
island shoals.**

ALTERNATIVE 3

**Same as 1 and 2, plus:
Conduct aerial surveys during
spring and fall migration.**

**Initiate and conduct banding,
analyses and investigations, and
nesting and fledging surveys.**

WADING BIRDS

ALTERNATIVE 1

(STATUS QUO)

**Provide habitat for wading birds
on impoundments and salt
marsh.**

**Protect habitat for wading birds
on salt flats, estuarine ponds,
and sound island shoals.**

ALTERNATIVE 2

Provide habitat for wading birds on impoundments and salt marsh.

Protect habitat for wading birds on salt flats, estuarine ponds, and sound island shoals.

ALTERNATIVE 3

**Same as 1 and 2, plus:
Conduct aerial surveys from May
to July.**

**Initiate and conduct banding,
analyses and investigations, and
nesting and fledging surveys.**

ALL WATER BIRDS

ALTERNATIVE 1

(STATUS QUO)

Conduct ground surveys of all water birds present.

Conduct aerial surveys of all water birds present.

Assist with studies, banding, and investigations.

ALTERNATIVE 2

Conduct ground surveys of all water birds present.

Conduct aerial surveys of all water birds present.

Assist with studies, banding, and investigations.

ALTERNATIVE 3

Conduct ground surveys of all water birds present.

Conduct aerial surveys of all water birds present.

Initiate and conduct studies, banding, and investigations.

LAND BIRDS

ALTERNATIVE 1

(STATUS QUO)

Provide habitat for maximum diversity of birds on salt marsh, grasslands, and maritime scrub/shrub.

Assist with studies, banding, and investigations.

ALTERNATIVE 2

Provide habitat for maximum diversity of birds on salt marsh, grasslands, and maritime scrub/shrub.

Assist with studies, banding, and investigations.

ALTERNATIVE 3

**Same as 1 and 2, plus:
Conduct ground surveys.**

**Initiate and conduct banding,
and analyses and investigations.**

SEA TURTLES

ALTERNATIVE 1

(STATUS QUO)

Monitor sea turtle nesting activity.

Maximize sea turtle production to return the most sea turtles hatchlings back to the sea.

Monitor and collect data from stranded sea turtles.

ALTERNATIVE 2

Monitor sea turtle nesting activity.

Maximize sea turtle production to return the most sea turtles hatchlings back to the sea.

Monitor and collect data from stranded sea turtles.

ALTERNATIVE 3

Monitor sea turtle nesting activity.

Maximize sea turtle production to return the most sea turtles hatchlings back to the sea.

Monitor and collect data from stranded sea turtles.

**HABITAT
MANAGEMENT AT THE
PEA ISLAND NATIONAL
WILDLIFE REFUGE**

BARRIER DUNES

ALTERNATIVE 1

(STATUS QUO)

**Provide 446 acres of
predominantly artificial and
natural dune habitat by allowing
biogeophysical processes to
dominate.**

**Evaluate, regulate and monitor
NCDOT dune reconstruction
projects along Route 12.**

Evaluate, regulate, and monitor sand transport projects of non-FWS agencies regularly to limit impacts.

ALTERNATIVE 2

**Provide 446 acres of
predominantly artificial and
natural dune habitat by allowing
biogeophysical processes to
dominate.**

**Evaluate, regulate and monitor
NCDOT dune reconstruction
projects along Route 12.**

Evaluate, regulate, and monitor sand transport projects of non-FWS agencies regularly to limit impacts.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

ESTUARINE SALT FLATS AND PONDS

ALTERNATIVE 1

(STATUS QUO)

Provide 135 acres of salt flat habitat and 40 acres of estuarine pond habitat by allowing biogeophysical processes to dominate.

ALTERNATIVE 2

Provide 135 acres of salt flat habitat and 40 acres of estuarine pond habitat by allowing biogeophysical processes to dominate.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

GRASSLANDS AND SAND RIDGES

ALTERNATIVE 1

(STATUS QUO)

Provide 27 acres of palustrine grassland habitat, 50 acres of grassland/shrub habitat, and 183 acres of sand ridges by managing them to maintain grass cover.

ALTERNATIVE 2

Provide 27 acres of palustrine grassland habitat, 50 acres of grassland/shrub habitat, and 183 acres of sand ridges by managing them to maintain grass cover.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

IMPOUNDMENTS

ALTERNATIVE 1

(STATUS QUO)

Manage 500 acres for SAV production. Manage 300 acres for mud/sand flat habitat in the spring. Manage 100 acres for mud/sand flat habitat in the fall. Maintain 40 acres of open water year-round. Provide 200 acres of moist soil vegetation. Provide 85 acres of maritime scrub/shrub habitat. Provide 52 acres of shrub and grassland habitat on dikes.

ALTERNATIVE 2

Manage 500 acres for SAV production. Manage 300 acres for mud/sand flat habitat in the spring. Manage 100 acres for mud/sand flat habitat in the fall. Maintain 40 acres of open water year-round. Provide 200 acres of moist soil vegetation. Provide 85 acres of maritime scrub/shrub habitat. Provide 52 acres of shrub and grassland habitat on dikes.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

MARITIME
SCRUB/SHRUB

ALTERNATIVE 1

(STATUS QUO)

Maintain 565 acres of maritime scrub/shrub habitat.

ALTERNATIVE 2

Maintain 565 acres of maritime scrub/shrub habitat.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

SALT MARSH

ALTERNATIVE 1

(STATUS QUO)

Manage 1373 acres of salt marsh. Cooperate with regulatory agencies that monitor 27-acre mitigation marsh. Protect 260 acres of sound-side islands as candidate wilderness.

ALTERNATIVE 2

Manage 1373 acres of salt marsh. Cooperate with regulatory agencies that monitor 27-acre mitigation marsh. Protect 260 acres of sound-side islands as candidate wilderness.

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

SAND ISLAND SHOALS

ALTERNATIVE 1

(STATUS QUO)

**Protect 60 acres of sand island
shoals as candidate wilderness.**

ALTERNATIVE 2

**Protect 60 acres of sand island
shoals as candidate wilderness.**

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

THREATENED AND ENDANGERED PLANT SPECIES

ALTERNATIVE 1

(STATUS QUO)

**Protect threatened and
endangered plant species and
associated habitats as identified.**

ALTERNATIVE 2

**Protect threatened and
endangered plant species and
associated habitats as identified.**

ALTERNATIVE 3

Same as 1 and 2, plus:

Conduct surveys, studies, and inventories.

Analyze and quantify data using geographic information systems.

**PUBLIC USE
AT THE
PEA ISLAND
NATIONAL WILDLIFE
REFUGE**

ENVIRONMENTAL EDUCATION

ALTERNATIVE 1

(STATUS QUO)

Maintain current levels of environmental education (1000 students on-site and 250 students off-site).

ALTERNATIVE 2

Increase levels of environmental education (1300 students on-site and 530 students off-site).

ALTERNATIVE 3

Increase levels of environmental education (2000 students on-site and 1100 students off-site).

ENVIRONMENTAL INTERPRETATION

ALTERNATIVE 1

(STATUS QUO)

Provide opportunities for 1.1 million visitors (current levels).

ALTERNATIVE 2

Provide opportunities for 1.4 million visitors (25% increase).

ALTERNATIVE 3

Provide opportunities for 1.7 million visitors (50% increase).

WILDLIFE OBSERVATION

ALTERNATIVE 1

(STATUS QUO)

Provide 80-100 tours, maintain facilities for 1 million visits (current level).

ALTERNATIVE 2

Provide 100-120 tours, maintain facilities for 1.1 million visits (20% increase).

ALTERNATIVE 3

Provide 120-140 tours, maintain facilities for 1.3 million visits (40% increase).

WILDLIFE PHOTOGRAPHY

ALTERNATIVE 1

(STATUS QUO)

Provide opportunities and facilities for 325,000 visits.

ALTERNATIVE 2

Provide opportunities and facilities for 390,000 visits (20% increase).

ALTERNATIVE 3

Provide opportunities and facilities for 455,000 visits (40% increase).

RESOURCE PROTECTION

LAW ENFORCEMENT

ALTERNATIVE 1

(STATUS QUO)

Enforce refuge regulations.

ALTERNATIVE 2

**Encourage voluntary
compliance and enforce refuge
regulations.**

ALTERNATIVE 3

**Enforce refuge regulations
proactively and conduct
outreach on regulations.**

CORRIDORS AND COMMUNICATION TOWERS

ALTERNATIVE 1

(STATUS QUO)

**Develop special use conditions
for permitted corridor uses and
communication towers.**

ALTERNATIVE 2

**Develop special use conditions
for permitted corridor uses and
communication towers.**

ALTERNATIVE 3

Develop special use conditions for permitted corridor uses and communication towers.

Evaluate two corridor and two communication tower projects per year.

CULTURAL RESOURCES

ALTERNATIVE 1

(STATUS QUO)

**Restrict access to and regulate
activity in cultural resource
areas.**

ALTERNATIVE 2

Restrict access to and regulate activity in cultural resource areas.

ALTERNATIVE 3

Restrict access to and regulate activity in cultural resource areas.

Conduct a comprehensive cultural resource inventory.

PERMITS

ALTERNATIVE 1

(STATUS QUO)

**Develop special use conditions
for permitted activities.**

ALTERNATIVE 2

**Develop special use conditions
for permitted activities.**

ALTERNATIVE 3

**Develop special use conditions
for permitted activities.**

**Monitor use permits to ensure
compatibility.**

WILDERNESS AREAS

ALTERNATIVE 1

(STATUS QUO)

**Allow natural processes to
dominate.**

ALTERNATIVE 2

**Allow natural processes to
dominate.**

ALTERNATIVE 3

Allow natural processes to dominate.

Inventory, monitor, and study designated areas.